

THE IDENTITY OF *ALOE VITUENSIS* BAKER

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ABSTRACT

The identity of *Aloe vituensis* Baker from Kenya is discussed and an amplified description, based on plants from the Tana River area, is given, together with notes concerning the collector Thomas and the Denhardt brothers' Tana Expedition of 1878.

UITTREKSEL

DIE IDENTITEIT VAN *ALOE VITUENSIS* BAKER. Die identiteit van *Aloe vituensis* Baker uit Kenya word bespreek en 'n verbeterde beskrywing gebaseer op plante uit die Tanarivier omgewing word gegee asook aantekeninge oor die besoek van die versamelaar Thomas en die Denhardt broers se Tana ekspedisie van 1878.

INTRODUCTION

Some years ago Col.^{R.D.} Bayliss gave me a cutting from an Aloe collected at Hola in the Tana River area of Kenya. This proved to be "difficult" in cultivation (Plants collected at the same locality by Messrs. P. R. O. Bally and G. Classen, did not apparently survive, nor did those retained by Col. Bayliss in Mombasa) and did not flower while in cultivation at Salisbury, Rhodesia, but eventually did so when transplanted to Nelspruit, S. Africa.

At that time it was thought to be an undescribed species and I was most pleased to find, among the unidentified specimens in the National Herbarium, Pretoria, another gathering from Moyale which appeared to be identical with the Hola plant.

It was at this stage that it was considered to be advisable to check on any "species non satis cognitae" from the same region. The possibility was then disclosed that our plant might be the long lost *Aloe vituensis* Baker. Fortunately the type specimen of this species is one of those which escaped destruction in Berlin and examination of this material confirmed that the Hola and Moyale specimens were (both) conspecific.

Aloe vituensis Baker in Fl. Trop. Afr. 7: 458 (1898).—Berger in Engl. Pflanzenr.: 261 (1908).—Reynolds, Aloes Trop. Afr. Madag.: 529 (1966).

Type: Kenya, Thomas 113 (B!).

Kenya: K1, Moyale, Buna road, alt. c.2500 ft., "especially but not exclusively on termite mounds", *Gillett* 13660 (EA; K; PRE), (duplicates of this number are known to be at EA and K but I have not seen them); **K7**, Massa (Masabubu ?), Tana River, fl. 31.iii.1896, *Thomas* 113 (B); Hola, Tana Riv., comm. *Bayliss*, cult. Nelspruit, fl. 7.v.1967 and 21.vi.1968, *Leach* 899 (B; K).

Note: Massa is shewn on the map of Dr. Fischer's journeys, in Petermann's *Geogr. Mitteilungen*, t. 19 (1886), as being the turning point of the Denhardt brothers' 1878 expedition. Its position on the Tana River appears to have coincided closely with that of the present day Masabubu at 1° 13' S: 40° 00' E, about 8 miles south of Bura.

Native name: "ASSAI" (*Thomas*); "HARGEISA BaRiChA" (Boran) (*Gillett*).

A description based on plants collected at Hola and cultivated at Nelspruit now follows:—

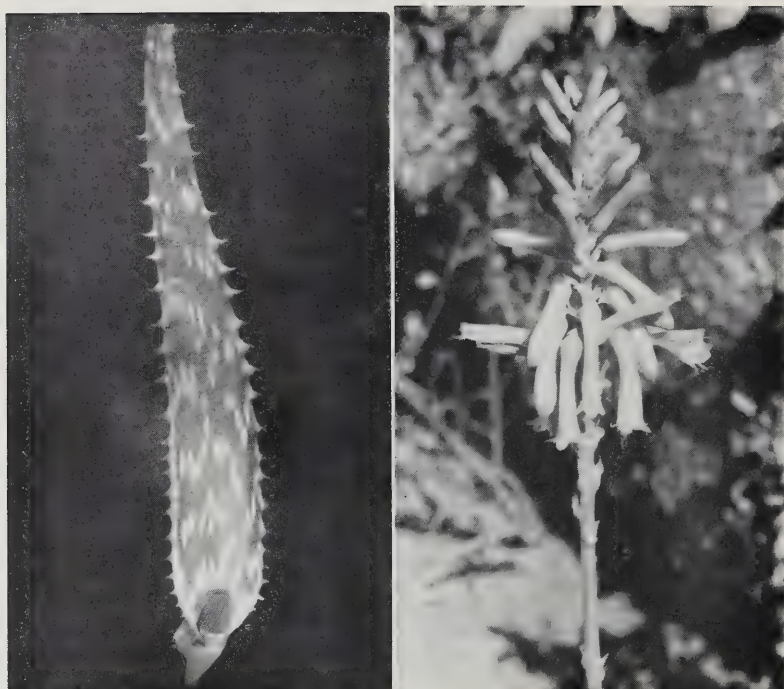
Plant a very sparingly branched shrublet, branched from the base, with slender stems up to 40 cm long; stems at first erect, becoming more or less decumbent, with the apical portion ($\pm$ 15 cm) erect, generally foliate for 15 to 20 cm. *Leaves* very narrowly ovate attenuate, up to 27 cm $\times$ 3 cm (37.5 cm $\times$ 3 cm *Gillett* 13660), relatively thick (up to 12 mm) and fleshy, generally biconvex, laxly spirally arranged low down, becoming crowded at the apex, basally sheathing, with the sheaths brown striatulate and the internodes up to 3 cm long; *upper surface* slightly concave, flat, or usually convex, becoming slightly canaliculate towards the apex, yellow-green below, becoming bronze to brown towards the margins and apex (apparently eventually wholly brown), obscurely striatulate, with numerous lenticular or somewhat H-shaped whitish spots; *lower surface* paler, with more numerous whitish markings, more convex than the upper, rather sharply compressed into the thin acute margins; *margin* whitish, narrow, sinuate dentate or the interspaces straight; *teeth* pungent, deltoid or uncinat, orange-brown, 3—4 mm long, 5—10 mm apart. *Inflorescence* simple, strictly erect, about 50—60 cm long. *Peduncle* about 45 cm long, very slender, terete, only very slightly compressed low down, $\pm$ 5 mm diam. with the angles acute, sometimes very narrowly wing-like, devoid of any bloom, obscurely brownish sulcate-striatulate, green becoming brownish above (pale straw-coloured when dry), with a few widely spaced sterile bracts for about half its length. *Raceme* subdensely flowered, cylindric, slightly acuminate, 7—8 cm long (lengthening in fruit to $\pm$ 15 cm, *Gillett* 13660), $\pm$ 6 cm diam.; buds green tipped, suberect, open flowers nutant. *Bracts* broadly ovate acute, usually with a small tooth on one, or occasionally on both sides, $\pm$ 7—9 mm long, up to 6 mm wide, appearing to be fleshy from being markedly convex (initially quite concealing the pedicels), pale greenish yellow to whitish buff, with 7—9,

initially green, becoming brown to blackish nerves and a thin whitish margin; the sterile bracts many nerved, less markedly convex and somewhat larger, the lowest $\pm 14 \text{ mm} \times 10 \text{ mm}$. *Pedicle* 4–7 mm long (lengthening in fruit to $\pm 10 \text{ mm}$), pale green to pale dull yellow with a few minute white flecks. *Perianth* slightly curved, basally obtuse and shortly stipitate, the base and stipe minutely tuberculate-asperate, 27–29 mm long, $\pm 5 \text{ mm}$ diam. towards the base, gradually slightly contracting above the ovary, thence gradually trigonously expanding to the wide open mouth, 8–10 mm diam.; *outer segments* free 6–8 mm (up to 12 mm, *Gillett* 13660), obscurely 5–7 nerved; nerves orange-brown, becoming confluent and darker towards the slightly spreading whitish apex; *inner segments* themselves free but dorsally adnate to the outer for $\pm 20 \text{ mm}$, more obtuse and more spreading than the outer, with wider translucent whitish margins and three more prominent, darker nerves forming a slight keel. *Filaments* filiform flattened, translucent pinkish white, the three inner narrower and lengthening before the three outer; *anthers* rich orange-brown with pale peach-coloured pollen, crowded towards the lower part of the mouth, not or shortly (up to 4 mm) in turn exserted. *Ovary* $\pm 4.5 \text{ mm} \times 2.25 \text{ mm}$, 6-grooved, with the sutures more deeply grooved than the angles, pale green, faintly peach-coloured in the grooves; *style* pale green, paler at the base; *stigma* white, not or very shortly exserted (up to 1 mm). *Capsule* (almost ripe) green, smooth, ellipsoid, $\pm 20 \text{ mm} \times 10 \text{ mm}$ diam. (when dry, pale fawn-coloured, transversely rugulose, $16 \text{ mm} \times 8 \text{ mm}$, *Gillett* 13660), shortly stipitate, the stipe minutely tuberculate-asperate; *seeds* more or less irregularly trigonous, with a broad, translucent, whitish, fragile wing at each end, which enlarges laterally below the seed to form a smaller wing set centrally at an angle to the main portions.

A. vituensis appears, in many respects, to be most closely related to an as



FIG. 1. *A. vituensis* Bak. Flowers 1/1 from a plant from Hola, cult. at Nelspruit

FIG. 2. *A. vituensis* Bak.

Leaf and raceme from a plant cultivated at Nelspruit, Leach 899

yet undescribed species from Mossuril Bay in northern Moçambique. This has also proved to be "difficult" in cultivation so that material adequate for its description has, unfortunately, not yet been obtained. Of the known species it seems to be most closely related to *A. dorotheae* Berger from Tanzania but is distinguished by its taller, more densely flowered inflorescence, its caulescent, laxly foliate stems and proportionally longer narrower leaves. However, plants do not fit well into Reynolds's Group 5 (Aloes Trop. Afr. Madag. 1966) by reason of their stems and habit. In habit, laxly foliate slender stems and turgid narrow leaves, this attractive species is perhaps closest to *A. confusa* Engler (Group 10) from Lake Chala in Tanzania, but in most other respects it is quite distinct. In dried material the nerves of the perianth become very conspicuous so that our species would appear to fit into Reynolds's Group 4 (Small plants with striped flowers). However, in the live state no trace of stripes is evident,

and plants appear, therefore, to fit best into Group 19A (Low undershrubs) being keyed out by:— "*Inflorescence simple, 60 cm high*"

The collector's label on the type sheet gives the interesting information "Aloe, gifling, disnt zum vergiflen van Krokodilen". Whether this modest plant is really effective in disposing of so redoubtable a reptile is not known, but the note has certainly given pause to the present writer in his habit of testing by taste for the presence or absence of the bitter principle in the leaf sap of the genus.

There is also, on the same label, an apparent discrepancy in dates: the heading being "G. Denhardt's Tana Exped. 1878, Thomas (Gebr. Denhardt)" while the date of the gathering is given as "31 März 1896". This prompted some enquiry into the history of Thomas and the brothers Denhardt, and I am much indebted to Dr. Edith Raadts of the Botanisches Museum, Berlin, for much of the information which now follows.

Little is known about Thomas except that his collections were presented to the Berlin Museum by Gebr. Denhardt; Urban in *Gechichte des Botanischen Museums 1815—1913* (1916), lists these as:— Samml. I: Wituland (Gebr.



FIG. 3. Raceme shewing strongly convex bracts, cult. Nelspruit



FIG. 4. The specimen from Moyale, Gillett 13660, in the National Herbarium, Pretoria

Clemens und Gustav Denhardt's Tana Exped. a. 1896) 219 Nr. Samml. II: Mombasa and Takaunga (a. 1897) 93 Nr. Samml. III: Nairobi (a. 1903) 137 Nr.

Denhardt, G. & C., Berlin are listed in Schnee, Deutsches Kolonial Lexikon **1**: 293 (1920), as exporters of mangroves from G.E.A. with stations at Tanga, Pangani, Lindi and Kilwa. From further personal notes in the same publication and in Weidmann, *Deutsche Männer in Afrika*: 28 (1894), it appears that the firm obtained a land concession from the Sultan of Witu, a portion of which was disposed of to the Witu Association and the remainder used for plantations, which use appears to have continued for a period, under the management of German staff, after the area had come under British jurisdiction in 1890. Clemens Denhardt had, in the meantime, engaged in several E. African exploratory expeditions; his brother Gustav having returned to Germany, because of ill health, soon after their Tana expedition. On this latter journey the two brothers accompanied Dr. Fischer, starting at the Osi River on the coast they proceeded via Kau and Belesoni to the Tana River, which they followed to as far north as Massa, in the Malakoti(e) land, whence they started the return journey in November 1878.

It seems possible therefore, that Thomas was employed by Gebr. Denhardt & Co. on their Witu plantations (or his expeditions financed by them) and that when he duplicated the 1878 Tana Expedition his gatherings were included under the original heading although it seems improbable that either of the brothers actually took part in this second expedition.

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